

Performance innovation through fleet optimization



Fleet optimization solutions for the Public Sector



IBM fleet optimization solutions for the Public Sector offer a wealth of analytics that can integrate into back-end systems the location and status of heavy equipment like maintenance trucks, snowplows, busses, and sanitation vehicles, their drivers and their passengers.

Benefits to government departments can include more efficient use of equipment, lower costs, and increased productivity on the part of drivers.



Fleet management

In recent years, fleet managers for state and local governments – public works, school districts, transit and emergency services – have faced pressures for greater efficiency, controlling costs, and compliance with legal mandates. They've answered these challenges by introducing various fleet management strategies. These solutions typically employed a locator unit in the vehicle and a radio link back to headquarters. Then, at least, dispatchers knew the location of the assets in their fleets.

Better fleet management led to greater efficiencies and reduced costs. However, challenges continue in the form of ever-higher fuel costs, more legislation, need for greater accountability to the public and ongoing difficulties retaining qualified drivers. Once again, fleet managers are seeking new and more innovative solutions for greater efficiency.

Fleet optimization

IBM fleet optimization solutions can be the answer. Going beyond simple information about the location of a vehicle, these solutions offer a wealth of analytics that can integrate the location and status of vehicles, drivers,

and passengers or cargo into back-end systems. This means more efficient vehicle and personnel utilization and greater visibility into mobile operations. These solutions can also serve as a remote gateway for access to vital government applications for mobile employees.

An IBM fleet optimization solution can include the following features:

Fleet reporting for vehicle, driver and passengers or cargo. Global positioning (GPS) technology combined with on-board auto-ID capabilities, such as RFID readers, deliver exact knowledge of the location of assets at any time. This information enhances the performance of dispatchers, work schedulers, maintenance personnel, and those responsible for security and logistics. GPS also enables mapping for greater efficiency and the possibility of geo-fence alerts that indicate when a vehicle, such as a bus full of children, goes off route. Remote monitoring of vehicles is also of great importance for the transportation of hazardous materials, cash and bonds, or detainees.

In addition, GPS information can enhance public safety and life support. Dispatchers know where their vehicles are and when they will arrive, with time, location, vehicle ID, speed and mileage logged automatically. They can also confirm when and where roads have been cleared or de-iced in winter.

Built-in vehicle diagnostics. An IBM fleet optimization solution makes it possible to track and report vehicle maintenance schedules automatically. Trucks, busses and cars can then be scheduled for maintenance in an orderly fashion with technicians planning for action rather than reacting to problems. Accessory diagnostic systems can indicate the condition of the brakes, door locks and windows. For efficiency and safety, diagnostics can also follow how the vehicle is driven. Insurance companies provide discounts if theft prevention and vehicle recovery systems are part of the fleet.

Communication options. The solution can also include facilities for voice, text to speech and voice recognition over cellular connections. Wireless integration, 802.11, handheld terminals and signature capture applications are also options.

Two approaches

Standard Fleet Optimization

A standard fleet optimization solution can be implemented quickly. Working with carefully selected technology partners, leaders in their markets, IBM will review various approaches to determine the best fit for your department's needs.



The standard offering includes in-vehicle Global Positioning Device (GPS) selection, communications vendor selection, and a standardized set of fleet optimization reports such as vehicle performance, speeding, landmarks, geo-fence in/out, telemetry alerts.

The solution can be pilot-tested on a few vehicles or rolled out to an entire fleet. IBM can provide infrastructure design, servers and application integration; planning and project management; installation and testing; and systems management and support.

Solutions can be delivered either in an Application Service Provider (ASP) mode, where the data and applications are stored remotely in a secure location, or in a server mode, where the applications and data reside on your premises.

Customized Fleet Optimization

When the standard fleet solution does not meet your department's requirements, IBM can construct a unique solution. This approach customizes the elements of the standard offering to your fleet and data center application interfaces. It includes a customized set of fleet optimization reports. Customized Fleet Optimization can also provide many additional functions in areas like remote vehicle diagnostics, custom telemetry, passenger and cargo tracking, and communications gateways.

Benefits of optimization

An IBM fleet optimization solution for Public Sector agencies can provide the following benefits:

- *Knowledge of vehicle location (car, truck, bus, etc.) at all times*
- *Compliance with government regulation for receiving funding*
- *Reduction of vehicle maintenance costs*
- *Lower fuel consumption*
- *Improved occupant and driver safety*
- *More efficient scheduling*
- *Theft prevention and avoidance of unauthorized use*
- *The ability to recover lost assets*
- *Minimized risks and lower insurance costs*
- *Ability to monitor the status of aging fleets*

In-car smart boxes can display maps and caution drivers.

IBM and a university in the Middle East are developing a telematics device that can be installed in vehicles to take advantage of global positioning technology to show vehicle location and speed and to provide other options like allowing a vehicle's owner to speak with the driver.

Because the country is becoming concerned about safety and the flow of traffic on its roads, the devices also use wireless technology to upload information from the vehicle to traffic control agencies. If a car is going above the speed limit, the device first issues a verbal warning about speeding. If the warning is ignored, the smart box has the ability to inform a central office about the violation and where it was committed.

Other options planned for the system include the ability to handle e-mail, make phone calls, and even open doors for drivers and passengers.

Fleet optimization business scenarios provide benefits to customers

Fleet business scenarios	Key ROI data points*	Main benefits
Know vehicle locations at all times	Awareness	<ul style="list-style-type: none"> - Accuracy of records improved - Allows workload to be better managed - Provides management with up-to-the-minute status - Eliminates need to call drivers on radio or phone for their location - Allows dispatcher to predict when a vehicle will be at a customer stop - Less time wasted checking each vehicle - Less vehicle downtime - Driver spends less on paperwork - Eliminates depot re-keying when papers are turned in - Avoid traffic delays and reduce distance traveled - Minimize billing disputes - Reduce customer queries - Increase customer referrals - Fewer severe emergencies - Improved driver satisfaction - Fewer vehicles and cargo stolen - Reduced insurance rates - Reduce cargo theft - Reduce fraud
Reduce vehicle maintenance costs	5% reduction in costs	
Reduce fuel consumption	14% reduction in consumption	
Improve driver productivity	30% increase in productivity	
Enhanced customer satisfaction through on-time arrivals	94% reduction in customer queries	
Improve driver safety	Supporting the lone-worker's initiative	
Minimized risks to reduce insurance costs	Reduction or no shrinkage; reduce premiums based on driver behavior	
Prevent thefts and recover stolen assets (vehicle, cargo)	5% reduction on premiums	
Increase security through monitoring the cargo	Safer transportation, e.g., hazardous waste; cash / bonds; detainees	
Fleet reporting – proof of service	Reduce fraudulent compensation claims, e.g, motor accidents on de-iced roads	

* ROI based on a compilation of fleet management research reports, white papers, and product literature.

- *Integration with highway infrastructure, 802.11, camera, personal ID systems, as well as with video and audio solutions.*
- *Visibility into the status of passengers or cargo*
- *Improved accountability to the public*
- *Better avoidance of fraudulent claim costs*
- *Increased safety through anti-terrorism and lone-worker monitoring*

Tax-exempt financing at competitive rates

IBM can provide competitive tax-exempt financing interest rates (nearly 40% less than commercial rates) directly to state and local governments, public schools and universities,

research institutions and public hospitals. Financing is available for hardware, eligible software and services, from both IBM and non-IBM suppliers.

To take advantage of this great opportunity, check with your IBM representative for more details and applicability.



Choose IBM

IBM has a proven track record in fleet management and optimization. We invest some \$5-6 billion annually in research and development, and we are noted for our global reach and innovative solutions. As a well-established player in the industry, we are committed to long-term

relationships, and our Partners are the best in the business. IBM Fleet Solutions interface to, and integrate with, enterprise applications using standards-based Service-Oriented Architecture (SOA). An IBM foundation ensures that years from now the

solution won't become outdated; the solution can be upgraded rather than replaced.

For more information, contact:
ibm.com/solutions/sensors

Improving transportation to the airport

At its Bedfont campus outside London, IBM hosts meetings for numerous clients each day and offers bus service to and from London Heathrow Airport. Because of heavy traffic, however, clients could not trust schedules.

To improve reliability, IBM fitted each bus with a GPS unit that transmits bus locations to a plasma screen in the IBM lobby and over the Internet. Clients can now see where busses are at all times and make arrangements accordingly. GPS data can also be used to recalculate departure times if a bus is delayed, thus continuously updating schedules.

In addition to IBM WebSphere® software, the solution uses the IBM asset called Vehicle Tracking and Data Transmission for Business Applications, a service hub that interfaces with business applications, telematics devices and application services.

In the first six months of using the solution, the number of passengers riding the busses doubled, and IBM clients are spending significantly less time waiting. The solution also reduced the cost per passenger by 50 percent.



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